

# Making ENERGY STAR Work for Multifamily Low-Rise

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# Topics

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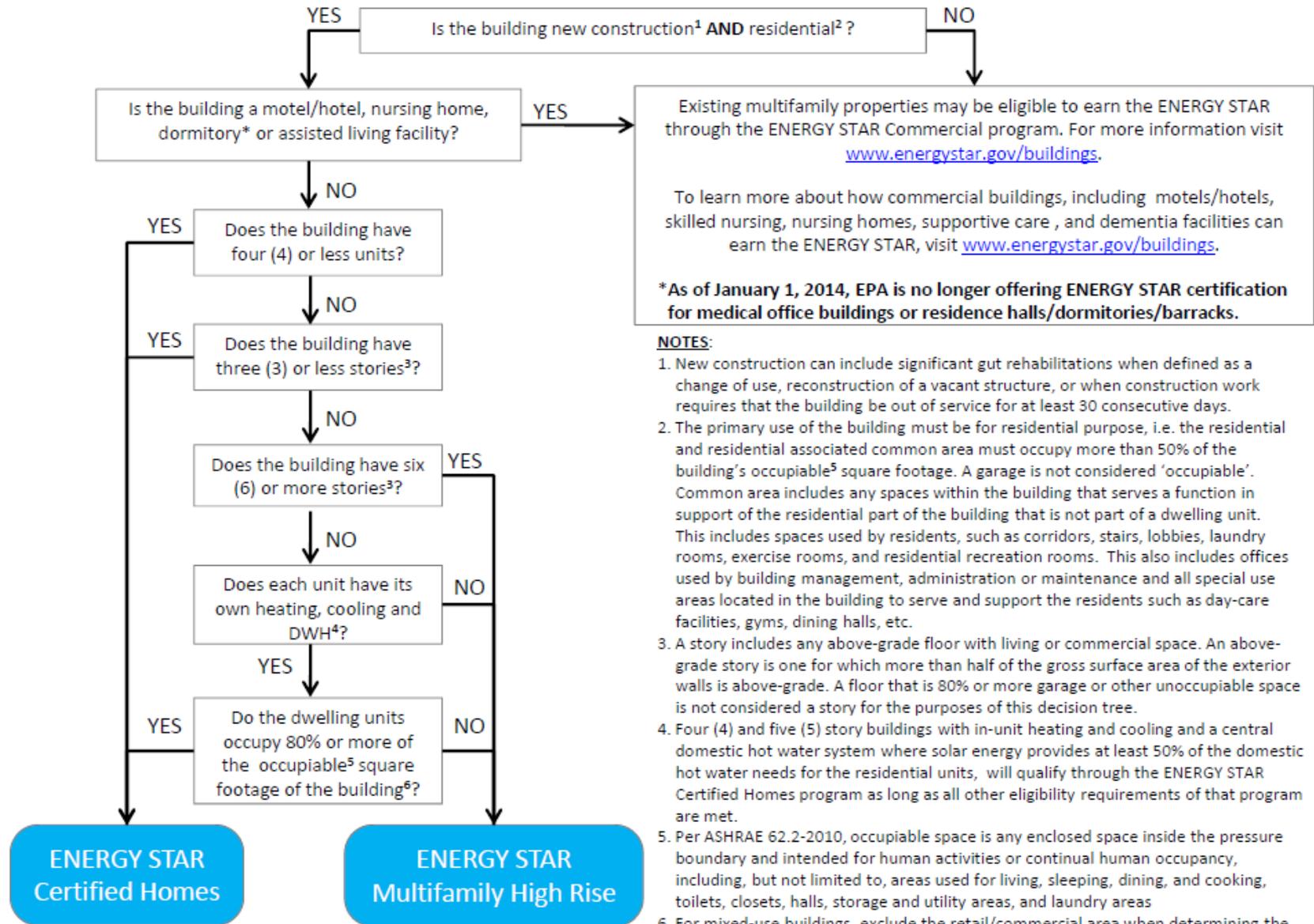
- **What is Multifamily Low Rise?**
- **Challenges associated with Multifamily**
  - Technical Challenges
  - Process Challenges
- **Incentive Program Perspective**

# Common Definition

- **Low Rise Multifamily (MF)** – A structure up to three floors above grade, and some 4 or 5 story buildings, containing four or more dwelling units that share common external entrance(s). Includes most apartment buildings.



# EPA ENERGY STAR Multifamily New Construction Program Decision Tree, Version 1.2



Existing multifamily properties may be eligible to earn the ENERGY STAR through the ENERGY STAR Commercial program. For more information visit [www.energystar.gov/buildings](http://www.energystar.gov/buildings).

To learn more about how commercial buildings, including motels/hotels, skilled nursing, nursing homes, supportive care, and dementia facilities can earn the ENERGY STAR, visit [www.energystar.gov/buildings](http://www.energystar.gov/buildings).

**\*As of January 1, 2014, EPA is no longer offering ENERGY STAR certification for medical office buildings or residence halls/dormitories/barracks.**

**NOTES:**

1. New construction can include significant gut rehabilitations when defined as a change of use, reconstruction of a vacant structure, or when construction work requires that the building be out of service for at least 30 consecutive days.
2. The primary use of the building must be for residential purpose, i.e. the residential and residential associated common area must occupy more than 50% of the building's occupiable<sup>5</sup> square footage. A garage is not considered 'occupiable'. Common area includes any spaces within the building that serves a function in support of the residential part of the building that is not part of a dwelling unit. This includes spaces used by residents, such as corridors, stairs, lobbies, laundry rooms, exercise rooms, and residential recreation rooms. This also includes offices used by building management, administration or maintenance and all special use areas located in the building to serve and support the residents such as day-care facilities, gyms, dining halls, etc.
3. A story includes any above-grade floor with living or commercial space. An above-grade story is one for which more than half of the gross surface area of the exterior walls is above-grade. A floor that is 80% or more garage or other unoccupiable space is not considered a story for the purposes of this decision tree.
4. Four (4) and five (5) story buildings with in-unit heating and cooling and a central domestic hot water system where solar energy provides at least 50% of the domestic hot water needs for the residential units, will qualify through the ENERGY STAR Certified Homes program as long as all other eligibility requirements of that program are met.
5. Per ASHRAE 62.2-2010, occupiable space is any enclosed space inside the pressure boundary and intended for human activities or continual human occupancy, including, but not limited to, areas used for living, sleeping, dining, and cooking, toilets, closets, halls, storage and utility areas, and laundry areas
6. For mixed-use buildings, exclude the retail/commercial area when determining the square footage of the "building".

# What's the Same?

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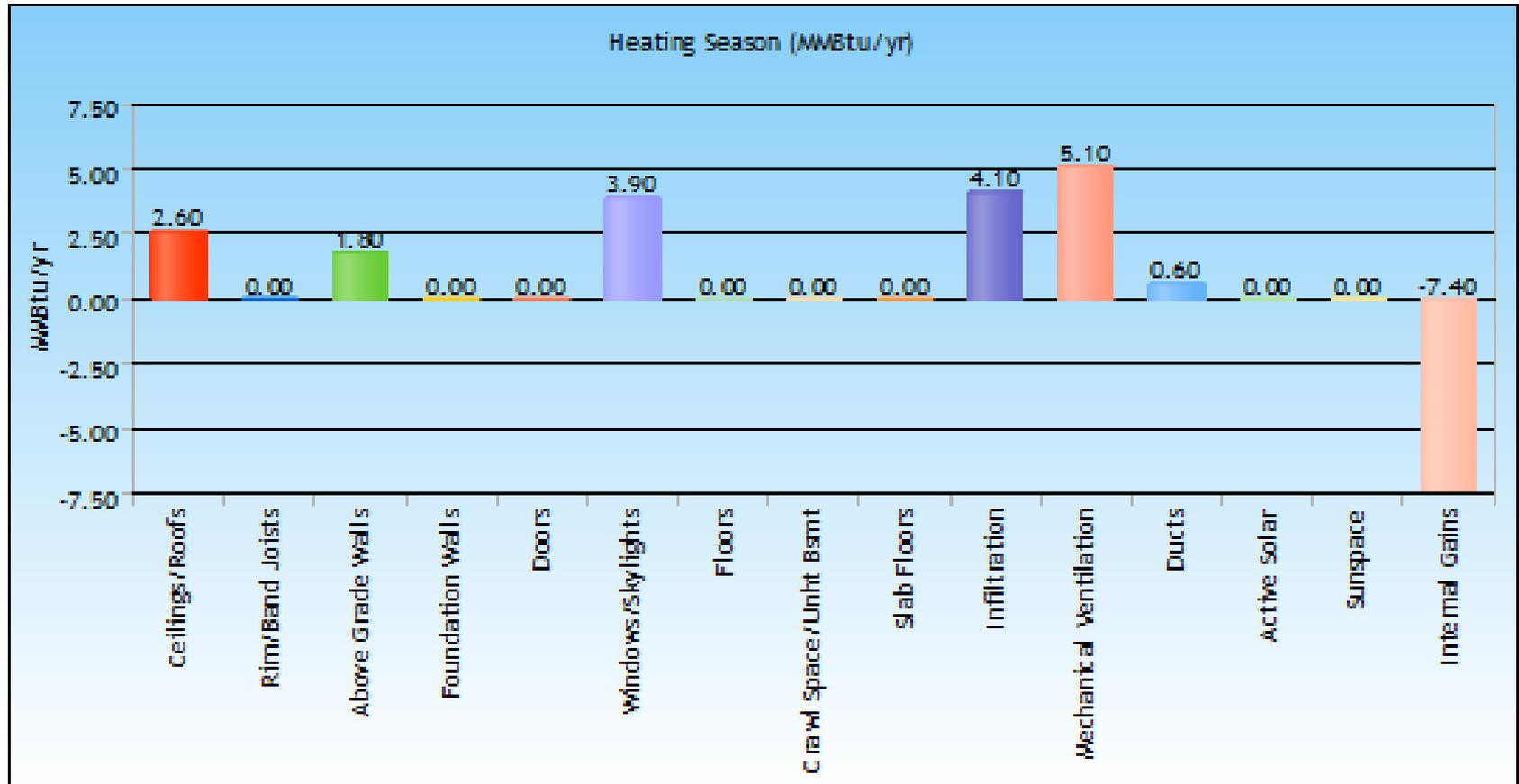
- **Energy modeling, inspection and certification by HERS raters**
- **RESNET/ENERGY STAR standards and procedures**
  - **With some exceptions**
- **Dwelling unit ratings (not whole building)**
- **HERS Rating software used**

# What's Different about Multifamily?

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- **Shared Walls**
- **Duct Leakage and Air Leakage Testing**
- **Ventilation Strategies**
- **Parking Garages**
- **Common Areas**
- **Different types of heating and cooling systems**
- **RESNET Guidelines for Multifamily Ratings**

# Load Profile of MF units



# What is Compartmentalization?

- **Air Sealing of Space relative to adjacent spaces and outdoors**





# Duct Leakage Testing



# Ventilation Strategies

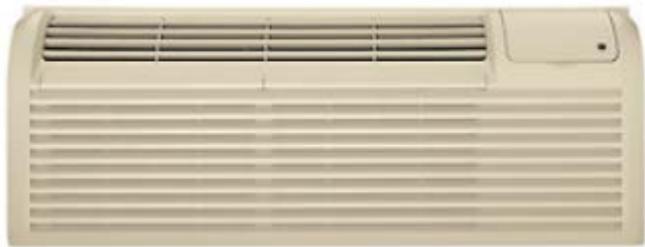
- **Exhaust/Supply/Balanced**
- **HRV/ERV**
- **Individual Ventilation System (serves one dwelling unit)**
- **Central Ventilation System (serves more than one dwelling unit)**



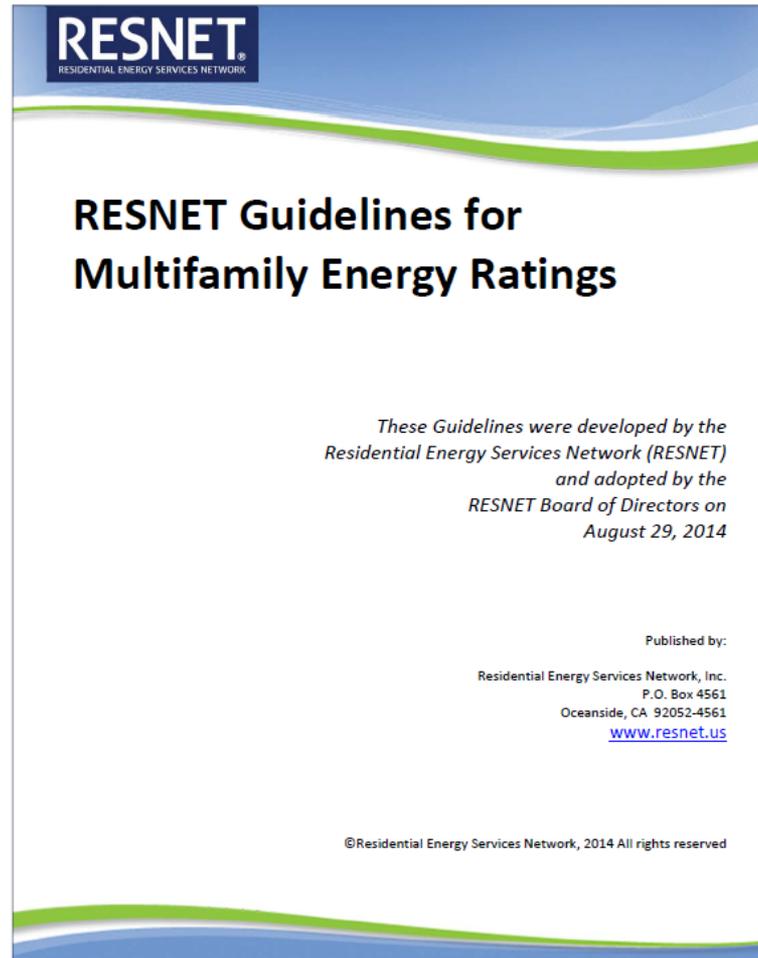
# Parking Garages



# Heating and Cooling Systems



# RESNET Guidelines for MF Ratings



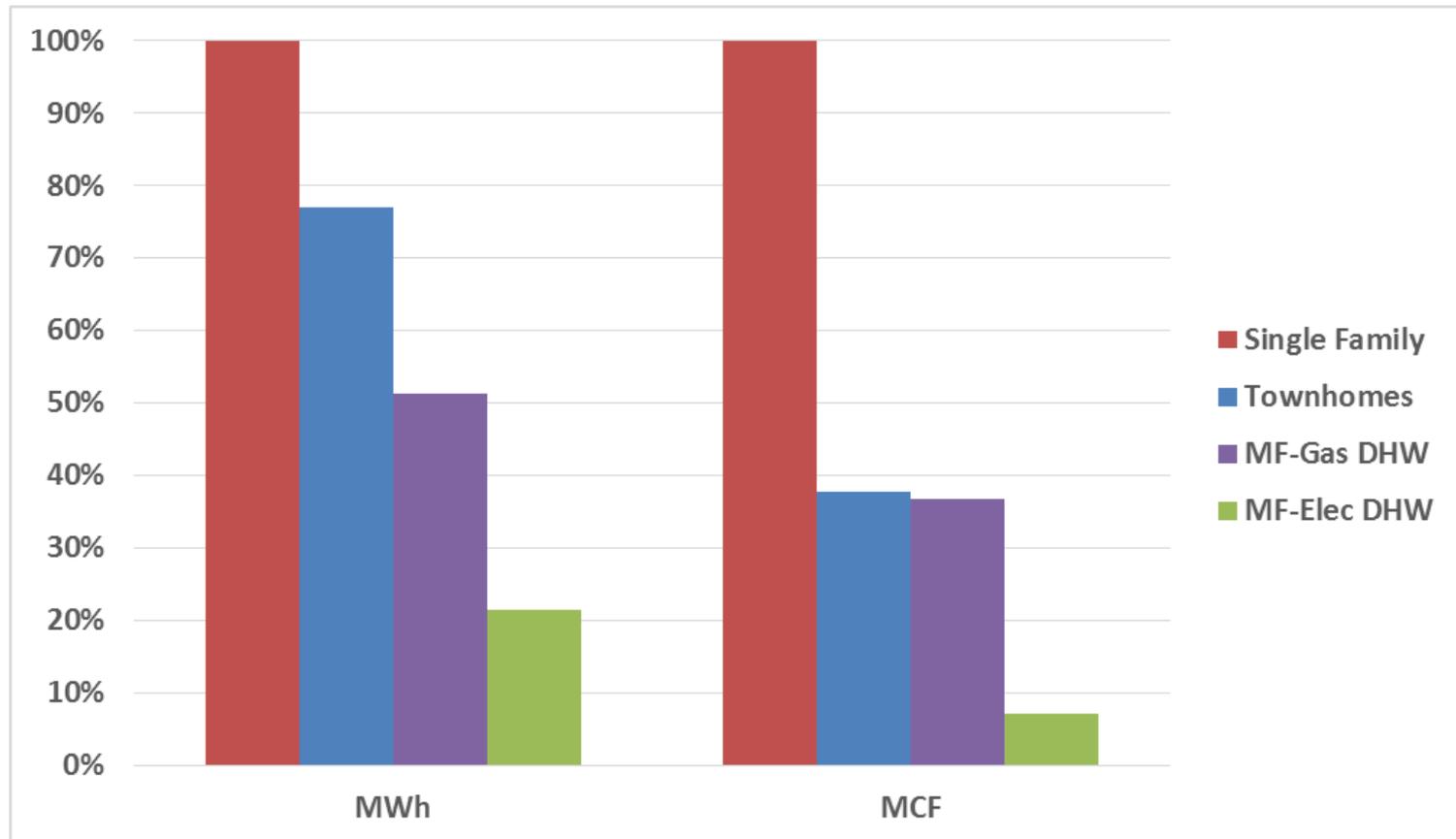
# Program Perspective

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- **Developing a multifamily incentive structure - align expectations!**
  - Difficulty meeting low HERS thresholds
  - Lower savings per dwelling unit
  - Construction upgrades and rating procedures that require different skills and experience

# Program Perspective

## Building & DHW Type Make a Difference!



# Program Perspective

- **What's the driver...?**
  - \$/unit: Participation ↑ ... Cost effectiveness ↓
  - \$/Savings: Cost effectiveness ↑ ... Participation ↓
- **The customer's perspective**
  - Doesn't care what kind of meter it is!
  - Include all space and systems
  - Savings ↑ ... Participation ↑

# Program Perspective

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- **An important market segment**
  - Traditionally underserved
  - Affordable housing
  - Millennials & empty nesters
- **Who's the customer?**
  - Developers
  - Affordable QAP applicants
- **What's next?**
  - Passive House

# It Can Be Done!

